REMARKS

The paper is in response to the Office Action mailed April 14, 2009 ("the Office Action"). The foregoing amendment cancels claims 6 and 17-29. Claims 1-5 and 7-16 remain pending in view of the amendments. Applicants respectfully request reconsideration of the application in view of the above amendments to the claims and the following remarks. For Examiner's convenience and reference, Applicants present remarks in the order that the Office Action raises the corresponding issues.

In connection with the prosecution of this case and any related cases, Applicants have, and/or may, discuss various aspects of the disclosure of the cited references as those references are then understood by the Applicants. Because such discussion could reflect an incomplete or incorrect understanding of one or more of the references, the position of the Applicants with respect to a reference is not necessarily fixed or irrevocable. Applicants thus hereby reserve the right, both during and after prosecution of this case, to modify the views expressed with regard to any reference.

Please note that Applicants do not intend the following remarks to be an exhaustive enumeration of the distinctions between any cited references and the claims. Rather, Applicants present the distinctions below solely by way of example to illustrate some of the differences between the claims and the cited references. Finally, Applicants request that Examiner carefully review any references discussed below to ensure that Applicants' understanding and discussion of any reference is consistent with Examiner's understanding.

Unless otherwise explicitly stated, the term "Applicants" is used herein generically and may refer to a single inventor, a set of inventors, an appropriate assignee, or any other entity or person with authority to prosecute this application.

Rejection Under 35 U.S.C. §112, ¶1

The Office Action rejects claims 1-5 and 7-16 under 35 U.S.C. §112, ¶1. Applicants respectfully traverse this rejection for at least the reason that the specification adequately enables claims 1-5 and 7-16. For at least the reasons outlined below, Applicant respectfully submits that the Examiner has failed to establish that the specification, which includes the information claimed immediately above, enables one of skill in the art to practice the claimed invention without undue experimentation.

Specifically, Applicant notes that the Examiner has failed to properly state the test for enablement. Particularly, the test for enablement is not, contrary to the assertion of the Examiner, simply whether the claimed invention "was described sufficiently in the specification to enable one skilled in the art to make and use the invention." Rather, it is well established that "The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In Re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)." *MPEP § 2164.01. Emphasis added.* In light of the foregoing, Applicant respectfully submits that the enablement test articulated by the Examiner is plainly inconsistent with longstanding U.S. Supreme Court and Federal Circuit precedent.

Applicant notes, moreover, that a determination that "undue experimentation" would have been needed to make and use the claimed invention is not easily reached. Particularly, the examination guidelines provide that "there are *many* factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any experimentation is 'undue.' These factors include, but are not limited to:

(A) The breadth of the claims;
(B) The nature of the invention;
(C) The state of the prior art;
(D) The level of one of ordinary skill;
(E) The level of predictability in the art;
(F) The amount of direction provided by the inventor;
(G) The existence of working examples; and
(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure."

MPEP § 2164.01(a). Emphasis added. In connection with the foregoing, the examination guidelines further provide that "It is improper to conclude that a disclosure is not enabling based on an analysis of only one of the above factors while ignoring one or more of the others. The examiner's analysis must consider **all** the evidence related to **each** of these factors, and any conclusion of nonenablement must be based on the evidence as a whole. *Id. Emphasis added.*

As to the aforementioned factors, the examination guidelines explain that "The determination that 'undue experimentation' would have been needed to make and use the claimed invention is *not* a single, simple factual determination. Rather, it is a conclusion reached by weighing **all** the above noted factual considerations." *Id. Emphasis added.*

As the foregoing makes clear, the Examiner has not only failed to properly state the test for enablement, but the Examiner has likewise failed to address the issue of undue experimentation as such is contemplated by the enablement test. Applicant respectfully submits that the aforementioned deficiencies are fatal to the rejection posed by the Examiner under 35 U.S.C. § 112, first paragraph.

Finally, inasmuch as the Examiner has provided no evidence or analysis whatsoever concerning the purported lack of enablement regarding claims 1-5 and 7-16, and has instead simply provided a conclusory statement that the claims fail to comply with the enablement requirement, it appears that the Examiner is relying on personal knowledge as a basis for rejecting claims 1-5 and 7-16. In view of the foregoing, and pursuant to 37 C.F.R. 1.104(d)(2), Applicant hereby respectfully requests an Examiner affidavit that: (i) specifically identifies any and all reference(s), other than those that have been specifically cited by the Examiner, upon which the rejection of claims 1-5 and 7-16 is based; and (ii) provides complete details concerning the reasoning and analysis of the Examiner concerning those references as those references are purported to apply to the rejection of claims 1-5 and 7-16.

Moreover, regarding the element "means of receiving commands originating from the head end system, said commands sent in response to the corresponding digitally processed data, wherein said commands when executed adjust an operation of the digital processing circuitry" the Applicants further note that this element is discussed in several locations of the specification. For example, the Applicant cites to paragraphs 170 – 175 and Figure 23 that disclose the following:

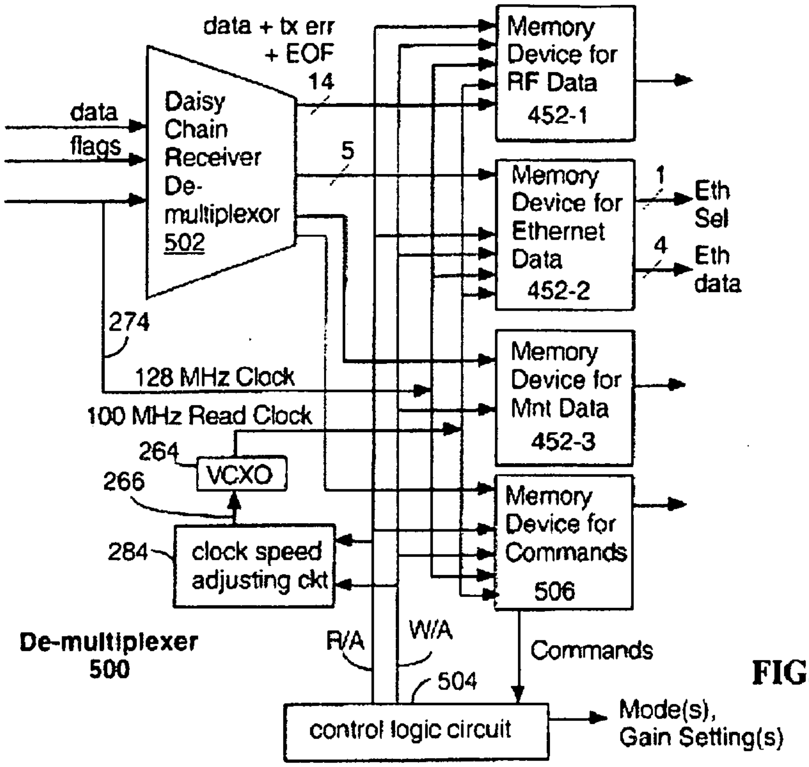
data + tx err
+ EOF
14
data
flags
Daisy Chain Receiver De-multiplexor 502
5
Memory Device for RF Data 452-1
Memory Device for Ethernet Data 452-2
1
Eth Sel
4
Eth data
274
128 MHz Clock
100 MHz Read Clock
Memory Device for Mnt Data 452-3
264
VCXO
266
Memory Device for Commands 506
284
clock speed adjusting ckt
De-multiplexer 500
R/A
W/A
504
Commands
control logic circuit
Mode(s), Gain Setting(s)

FIG. 23

[0170] FIG. 23 shows another embodiment of the demultiplexor of FIG. 17 having additional circuitry for receiving commands, such as commands sent by a head end processor, embedded in a data stream received from the head end of a CATV system. In this embodiment, the 24 Mb/s maintenance data channel is used to send commands from the head end system (or from an intermediate hub between the RF transmitters and the head end system) to the RF transmitters via the downlink Ethernet channel 404-0 shown in FIG. 14. Examples of commands that may be sent by the head end system (or by a hub) to any specified RF transmitter include: a command to send a sample of the RF data from its subtree via the maintenance data channel, a command to stop sending RF data from its local subtree (e.g., due to excessive ingress in that subtree), and a command to increase or decrease the gain of its RF input amplifier. The command data is preferably sent between data frames by transmitting two carrier words followed by two command data words. The command data words, when accumulated, represent one or more commands. Each command includes a destination portion identifying which RF transmitter or transmitters are the destination of the command and a command portion specifying an action to be taken or a mode to be set in the identified RF transmitter or transmitters. The destination portion may be implemented as an index value identifying a particular node, or as a bit map identifying one or more nodes as the destination of the command. The command portion may be implemented in using a conventional "op code+operand" format, or any other suitable format.

[0171] The demultiplexor 500 includes a receiver demultiplexor 502 that recognizes commands embedded in the maintenance data stream and stores them in a memory device 506. If the command is directed only to the subtree return link transmitter in which it has been received, it is processed by the control logic circuit 504 in the demultiplexor 500 and is not forwarded to the next subtree node. If the command is not directed to the subtree return link transmitter in which it has been received, or it is also directed to additional subtree return link transmitters, the command is forwarded to the next subtree node via the data out multiplexer 476 shown in FIG. 20.

[0172] K. Automatic Gain Control and Ingress Detection and Control

[0173] In any of the embodiments described above that include the ability to send commands from the head end system to the subtree return link transmitters, the head end system can optimize the input amplifier gain setting of each subtree return link transmitters as follows. First, the head end system monitors the RF data signal from the subtree. In the 2.times. and 1.times. return link transmitters, the RF data signal from each subtree is received at the head end as a distinct signal, and thus the energy level in the RF data signal can be analyzed by a processor at the head end. In the daisy chain embodiment, each subtree return link transmitter can be instructed to send an RF data sample to the head end via the maintenance data channel.

[0174] In one embodiment, a number of threshold levels are defined and then used to determine how to adjust the gain of the RF input amplifier 203 (FIG. 4) for each subtree return link transmitter. When the energy level in the RF data signal for a particular subtree is found to be below a first threshold, a command is sent to the subtree return link transmitter to adjust the input amplifier gain upwards, for instance by 6 dB, so as to boost the power of the RF data signal. This has the effect of improving the signal to noise ratio for the subtree without having to modify any of the equipment in the system. When the energy level in the RF data signal for a particular subtree is found to be above a second threshold, indicating that data clipping may be occurring, a command is sent to the subtree return link transmitter to adjust the gain of the RF input amplifier downwards, for instance by 3 dB or 6 dB, so as to reduce the power of the RF data signal and to avoid data clipping. Each subtree return link identifier is preferably provided with the ability to set the input amplifier gain to at least three distinct gain levels, and preferably five distinct gain levels, in response to commands sent by the head end system.

[0175] In addition to monitoring RF power, in one embodiment a processor in the head end system is configured to periodically perform a Fourier analysis of the RF data received from each subtree and to automatically detect ingress problems. When an ingress problem is detected, an operator of the system is notified. The operator of the system can then send a command, via the head end system, to the subtree return link transmitter to either stop sending RF data to the head end, or to adjust the RF input amplifier gain so as to reduce the impact of the ingress problem. In some embodiments, if the ingress problem detected by the processor in the head end

> system is sufficiently severe, a command to stop sending RF data to the head end or a command to adjust the gain of the RF input amplifier may be automatically sent to the return link transmitter for the subtree having the ingress problem at the same time that a notification is sent to the system operator.

(Emphasis added).

These are examples of the disclosure of such element that clearly illustrate that the element is enabled. For at least the reasons set forth above, Applicant respectfully submits that the rejection of claims 1-5 and 7-16 under 35 U.S.C. § 112, first paragraph should be withdrawn. Because the specification enables a person of skill in the art to make and use the claimed invention without undue experimentation, the specification enables claims 1-5 and 7-16. Applicants therefore respectfully request that Examiner withdraw the rejection of claims 1-5 and 7-16 under 35 U.S.C. §112, ¶1.

Charge Authorization

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

CONCLUSION

In view of the foregoing, Applicants submit that the pending claims are allowable. In the event that Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview or overcome by an Examiner's Amendment, Examiner is requested to contact the undersigned attorney.

Dated this 9th day of July, 2009.

Respectfully submitted,

/David A. Jones/ Reg. 50,004

DAVID A. JONES
Registration No. 50,004
Attorney for Applicant
Customer No. 22913
Telephone No. (801) 533-9800